Notes: Groundwater Convening Monday October 14th, 2013

Hosted by Los Angeles Environmental Justice Network
FS: Del Amo Action Committee
Facilitated by: Jane Williams

Introductions and Greetings

The Problem

Jane Williams - Director, California Communities Against Toxics
Felicia Marcus - Chair, State Water Resources Control Board

Jane Williams - Executive Director CCAT started with a personal story. Two things in the old west were punishable by hanging: stealing a man's horse and poisoning his well. Over the past century, society has lost touch with the importance of its groundwater resources. We need to re-language a new paradigm where groundwater is seen as a precious resource, something to be safeguarded as if our lives depended on it. We are protecting endangered animals, but what about groundwater? We need to re-envision how we are protecting groundwater resources.

Maps: "The plume that ate Southgate". It has been know for 3 decades. It was first under the Regional Water Board, then given to DTSC for almost a decade, and then punted to USEPA. It may soon have migrated under the local high school. We still do not know the source and have no plans to stop its spread. How can we protect uncontaminated water?

Felicia Marcus: Has been an activist in LA, public works board member, regional administrator for EPA, Trust for Public Land, NRDC. She is now chair of the State Water Resources Control Board. Concerned about how we can remediate areas. There has been a great interest in groundwater recently.

Statewide: CA has the most variable hydrology in the country; this poses a problem for our groundwater table. Rain tends to fall up north, a problem for the south. Water is needed for agriculture use in the central and southern regions of the state. Small scale storage was built by locals, then by government. Flood control was also implemented. Underground water basins store water for when it is needed, and when that need cannot be met using surface waters. This storage is used primarily to capture runoff from the mountains. Used in conjunction with use projections: snow melts, etc.

Groundwater basins are not regulated by the state of CA. Some are managed, but many are not. Adjudication has happened in some areas and we have water masters who have authority over those specific water rights. Very costly to adjudicate those rights and they are mostly adjudicated in urbanized areas where it was worth the cost.

Delta reform legislature, only thing implemented: county's need to report how much water is in the groundwater basins. The state getting involved causes “radioactivity”, no one really wants the state involved in groundwater basins. Irrigation districts and agriculture uses are overreaching and over pumping. This drops the well level which is currently allowed, due to the lack of legislation.

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Basins are important because they are relied on for drinking water. 95% of CA resident's receive public water supply from regulated water. The other 5% have personal wells. People don't want the government regulating their personal water which is a huge part of the water picture. Suburbs may have access to imported water.

Problems due to climate change: surface storage wasn't built up for the growing population. Half of the state's storage is relying on the snow melts and rain, surface storage provides water for many things. Sometimes they let water out for flood control, as with this year, but it didn't rain after they let it out. That water is lost now and not much more is expected this season. Building more surface storage is out of the question. Groundwater basins become more important now, we need to restore the groundwater basins so we can use the storage capacity.

The Delta is full of artificial islands. Levees are vulnerable to sea level rise. Storm surges are a threat, along with the rising sea levels. Here (Los Angeles), we are 60% dependent on imported water. We are trying to lessen the amount of imported water LA takes in. A goal for 2030 is to reduce that amount by half. Hoping to conserve, catch rain water and snow melt and store that water underground. Prop. O, state taxed itself. We need to be focused on ground water basin preservation and cleaning them up.

For recharge it depends on the basin you are in, certain areas are better than others. Foothills are good for infiltration/recharge, water sinks in fast. It also depends also on anthropogenic pollution. Solvents are a large problem, combined with a lack of care managing the solvents. This makes water unusable. Takes application, effort and money; which are currently a problem. Much depends on geology and the nature of the pollution. The need for healthy groundwater basins is going to accelerate.

Good news: steps are being taken to conserve and implement ways to restore groundwater. Prop. O.

Institutional challenges: acquiring money, this is true on a federal level and state levels. Money amount is shrinking in superfund and orphan sites. State level, general fund money has been drying up. Fee based now. DTSC looks for responsible parties, somewhat aggressively. A powerful incentive for responsible party is being used by the federal EPA; if they clean up your mess then responsible party is charged triple.

Underground storage tank program put a fee on gas and then uses that money to cleanup Underground Storage Tanks (USTs), it is a state program and is doing well.

Opportunities: We have the legislature's attention. We must seize the moment. Governor had one thing on statewide drinking water. AB22 had a report which focused on small water districts and how many people are at risk for contaminated water, another focus was on nitrate contamination. This created a lot of focus in the legislature. A human right to water bill passed last year that was modeled on the UN resolution, which they passed. Legislature didn't pass multiple water programs. Fracking legislation got their attention; legislators understood there should be a focus on groundwater.

Jane Williams: 10 years ago the environmental justice movement worked on knocking off

proposed bills which would have allowed companies to only clean the surface of contaminated sites. EJ groups have fought hard to protect groundwater. Now because of changing climates and a change in the government, we have a chance to change the way groundwater is handled. Our Congressional delegation here in LA is attentive and supportive. We need to seize the opportunity to establish a multiple-agency groundwater restoration initiative.

Questions:
Q. Water bond bill, what would happen next to get us closer to start the movement we need on this issue: Money, legislature, new authorities?
A. The administration, prop 50, authorized a funded groundwater mapping program. We need more money to construct a map of groundwater resources and as a start do a report. Agencies are trying to figure out how to make the groundwater authorities more useful. Strategically outlining a plan is very important. Funding sources are a continual challenge and important to secure.

Jane Williams: Just going after the RP's for money cannot be our only priority; this needs to be changed. Protection of an unspoiled resource is equally as important. We need to change the paradigm from "cleaning up contaminated sites" to "protecting pristine drinking water from poisons", then chasing down RPs and attacking the source of the contamination. These tactics are not mutually exclusive. It is just that as we are spending decades chasing down the RPs, we are allowing these plumes to expand and poison drinking water and degrade aquifers that should be protected and used for storage capacity.

The Players

Debbie Raphael – Director, Department of Toxic Substances Control
Tam Doduc – Board Member, State Water Resources Control Board

Debbie Raphael: Referring to handout on current authorities on the oversight; DTSC vs. Water Board. There is a need to define authorities and responsibilities. Real power comes from when we work together, in partnership. Many people go back and forth, sometimes a fear of stepping on toes. There is a Spirit of cooperation at the agency level right now.

Current system: polluter pays. Monitoring shows a plume, identify source of contamination, identify responsible parties, and convince RP's to pay for clean up while the plume spreads. Cost recovery system will not be enough. Only 9 million dollars appropriated for orphan site clean up to DTSC, this is not enough. In the next 10 years money will be eaten up by superfund sites operation and maintenance, matching funds will still be needed. One thing legislature could do is put money into orphan clean up and fund the states share of Superfund O & M.

When agencies cooperate and don't wait for the polluter to pay: Three examples of money being put forward that did not come from the RP's initially.

Monitoring shows a plume. Agencies work to stop the spread, clean up contamination, protect the aquifer, all before worrying about who pays for what.

Superfund site: San Gabriel/Whittier Narrows project. Water companies, federal and state agencies involved. Money paid upfront from state superfund and federal superfund. They are working together to stop the spread of the plume before RP's payments.

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Orange County Water District: Perchlorates Plume. They put up $ 7.5 million for stopping the plume's spread before cleanup of the source starts.

What If - funding was not an issue? We need to plan out the steps for when money is available, prioritize treatment levels, increase agency coordination, establish more realistic objectives, and a consistent approach.

Technical issues: Vapor intrusion. *Don't want to pollute the air space*, redevelopment of sites without vapor protections. *Don't want to pollute ground water.* Do we focus on shallow zones or deep zones first? Shallow zone has lower volume, many treatment options, easier to construct, economical, shorter timeframe, higher concentration. A deep zone with lower concentrations, higher volume, fewer treatment options, complex construction, expensive, long timeframe.

Nitrate bills passed, legislators agree taxpayers shouldn't pay. The key philosophy is that the polluters should pay for cleanup.

Jane Williams: Pristine water is the most important resource. Cleanup once contaminated will take so long; we need to focus on protecting the unspoiled resource. There is a need to come up with a new language, a new angle to look at the situation. CERCLA went nowhere, groundwater is still contaminated and it just created a huge legal battle. What if we had a bigger noose i.e. better forensics? Would that help? Can we change legislation so that we create the incentive for other players to protect groundwater?

Tam Doduc: "The Players" an interactive discussion using a football groundwater analogy.

Micro perspective

- One plume at a time
- One game at a time
- Winners and losers
- Difficulties along the way
- Always another game

Macro perspective

- Much broader perspective
- Groundwater basins as a whole
- Our water supply for the state
- The NFL as opposed to one team

The Athletes: The ground players; those in action.
The Coaches: Supportive; congressional delegations, community groups.
The Officials: Enforce rules; regulatory agencies, USEPA, water districts, attorney generals office.
The Investors: money guys. Bonds, capital ventures, water purveyors
The Broadcasters: political supporters, social media, involved communities
The Fans: community members, support the idea of water protection. Need to build that base in schools, communities, elected officials. Communities should feel an ownership of their groundwater basins.

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The Solutions

Scott Warren	– Lead, Drinking Water Protection/Agency Collaboration Team, Department of Toxic Substances Control
Rick Fears	– P. G., Geological Services Unit, Department of Toxic Substances Control
Sam Unger	– Executive Officer, Regional Water Quality Control Board

Rick Fears: Senior Geologist DTSC. He works with data. USEPA funded him to help the department find new sites. A Spatial Prioritization Geographic Information Tool, "SPGIT", he developed uses a lay out, squares, to prioritized drinking water risks. How many wells exceeded an MCL limit? Set a 1000 yard radius around contaminated wells to find linked wells. A focus is on halogenated compounds and solvents. Social vulnerability, how bad? These findings are summarized by the pollution boxes on the map, ranked from best to worst. San Fernando is the worst and then San Gabriel. He is using
Cal Enviroscreen. Screening wells for TCE concentrations. He is using four major data sets.

Questions?
Q. Florence Gharibian: Some places seem to have no contamination?
A. There are many wells in the region, not all of them are shown. Also, the wells contamination levels fluctuate. The data set finds the wells, there are many clean wells.
Q. Are we talking about keeping those uncontaminated wells clean?
A. Yes. We can see all of the wells; the wells are usually connected and have similar patterns. The line between the contaminated wells and uncontaminated wells is important.
A. Maps can be used for both purposes, focusing on what resources we have.
Q. Are we including water supply wells in this research?
A. Yes, there is a lot of public information about them. The "SPGIT" is a flexible tool, you can focus on questions. It is used to prioritize where resources need to be.

Jane Williams: 1989 to now, TCE toxicity limit has been changed.

Gina Solomon: Cal Enviroscreen is still evolving; we are working hard at getting drinking water incorporated into the system. Where does the water come from? What kind of water are people getting from wells? Census tracts being used run through different public water systems. Testing is difficult, how does different pollution compare? Huge data gaps have been revealed, testing should be much more consistent so data can be compared and analyzed.

Scott Warren: DTSC. We provided a great overview expanded on what DTSC has been doing with the Spatial Prioritization Geographic Information Tool "SPGIT". Wells are being examined for Chlorinated Solvents; looking for which areas have been impacted. Sacramento and Fresno are impacted, so is the L.A. basin. LADWP serves 4 million people, 11% groundwater. The Water Replenishment District meets the needs of 3.7 million people using 36% groundwater. Orange County impacted by nitrates serves 2.3 million people using 50% groundwater. He sited a success story in Orange County South; these sites have been in regulatory oversight for decades and some have remediation plans. Orange County water district spent 3 million on sampling wells and characterizing plumes. A huge amount of data is being found. Also, there is intent to come back and put in cut-off wells to protect the uncontaminated wells. Proactive

protection.

Looking at the area between the 405 and 110 freeways, 69 sites are listed, overseen by one regulatory agency. There are 24 former landfills underneath which complicate things. Some plumes identified, but data showed that they might not be a problem for drinking water. 9 sites recommended for further action, not for water but for vapor intrusion issues.

In Vernon, Perchlorates was found in the water, in a very small and specific interval. Wells impacted in a very small interval. No source found yet. Funding from EPA, checked out an old location that they thought might have caused the pollution, but didn't find anything. They are currently trying to get access to more wells for further testing. Working in collaboration with Water Replenishment District they have invested half a million for research.

Looking forward:
Organizationally, more partnerships should be formed, new perspectives formed to help reduce the threat and impact.
Technically: prioritize and reduce threats, scope, cost/benefit, application.

Q. Our area is talking about different ways to recycle water. Taking contaminated water, treating it, and reinjecting it into the ground. How does this impact plumes?
A. The water replenishment district is reinjecting tertiary treated water.
It is not contaminated, it never was. There is an opportunity to pull out contaminated water and treat it so that it can be reused, by the water district or someone who can handle it.

Q. Reclaimed water?
A. Waste treatment water, cleaned to high standard, more so then rivers. Sometimes used as a hydraulic wall against salt water intrusion. High purity, meets all standards, exceeds some. When reinjected it mixes with less pure water.

Roger Kintz: International interest right now. USEPA, Smart growth America is focusing on groundwater. There is talk of maybe a hydrosphere program to help protect groundwater. Everyone is entitled to safe and healthy drinking water. It would be great to establish rules and regulations to protect water. Create agreements, finding funding sources, partnerships, impact fee assessments, nitrates. Some state's have source water protection plans. It is very exciting to think about protection verses clean up.

Sam Unger: Has summary handouts and maps. He sees two major themes coming from this meeting. Prioritizing protection: it hasn't been the highest priority to date. Using the cost recovery model we have been chasing down parties to pay for the plume. There is a need for a new model to move forward with. Likes the model Debbie brought up with the three elements. Because of the MTBE issues, oil companies in Santa Monica provide water to citizens. The health and safety code and water code can be implemented to shut down certain things. The local governments and water districts are the biggest push forward. Many issues brought up today around groundwater protection, sentry wells and collaborations. His staff can meet with Stuart Black periodically, get busy on issues. Having an investigative order would be a good tool. Need to work with DTSC around purveyors and dischargers. LAWDP, funded water board staff, very aggressive looking at chrome sites. Dischargers should be named as PRP's.

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Responsible Parties want better forensics. Paula Rasmussen from the water board can help. USEPA Superfund is interested in these discussions. Vadose zone is the unsaturated area before the water table, through which waste flows through.

The Aftermath

Future plans and solutions.

Jane Williams- we don't want to switch agencies. The first thing we need for better collaboration, a collaborative model.

need a conversation about that
Have to find a way to use water data for water protection.
We can never have enough forensics.
Purveyor site contribution: what can they do?
How do you prioritize what needs to be done?
Orange County helped fund research.
Would carving out areas and declaring an authority fix things?
Plumes were moving around because wells were being put in place and dragging contamination throughout the plumes.

Funding criteria. DTSC had problems with the funding sources. Limitation, no water had been impacted, so nothing could be done for the spreading contamination.

Collaboration:
The best way is to get everyone together
Use authority to get information shared between partners
MOU to start with two state agencies, then pull in EPA

Jane: Goal - plumes need to get under orders to stop expansion

Confessions: sins of the fathers!

Investigative orders, NCIS type forensics project.
Forensics and authority, have a conversation with the purveyors.

In urban areas, there is a large water authority. Under them, there are more local members. If the plumes aren't stopped, the well owners will have to pay for well-head treatment.

Q. Do we want to build a more general group, or should we get our maps together and work at a more granular lever?
A. Both, if you know something, let each other know.

Communities might not have the money to treat water, or worse, they might reject water that has been treated, that was previously contaminated. NGO community had concerns about the quality of water that was being reinjected into the ground. Very small non-polar molecules could get through treatment system. How do you know what kinds of pollution will get through? Must be diligent in testing. A multiple staged treatment

process is used to ensure the water is safe.

Q. Would the purveyors be interested in investing part of the money to help get the plumes halted?
A. They're going to spend it at the well head later in treatment; it is cheaper to halt the plume.
Q. What about the smaller water agencies in the west coast basin?
A. If you tell them you need help and can't do it on your own, you need to do testing, and you might get some interest. It would require creating a partnership.
Q. Does Orange County meet with other regional districts?
A. As a water district that is not adjudicated, we look to the water masters because we control the water pumping, but we meet with other districts monthly. (DTSC to go and talk with them about creating a strategic partnership)

(***Have a meeting the LADWP to set up a plan, invite Water Replenishment District, Ken Manning, and Roy Herndon from Orange County)

Getting this group together in a timely fashion would be the best plan. What could we do now with existing funds and authorities?

We all liked: *****whoever puts in the treatment would get triple cost recovery.
Ask legislature for more money on the forensic side, could specify it was to track down RP's. 3x damages through the state legislature. Could this model be used for plume containment? Dissolved phase of a plume is the most expensive, the clean up and containment depends on the plume. How deep, concentrations of contaminates.

Next Steps:

- DTSC and Water Board is to create a MOU to jointly tackle the problem
- Within six weeks, we will convene a meeting with a number of water purveyors to see if they have an appetite to work together on this issue.
- Felicia will brief USEPA on what their role can be and what kind of help the state will need from the Feds.
- We will reconvene in the next 2-3 months to see where we are with our plans.